

WHAT IS CLAIMED IS:

1. A temperature determining device, comprising:

a temperature detecting unit that detects a temperature of a
5 determination object member based on an intensity of infrared rays from
the object member;

a unit for determining a temperature for correction that determines
a temperature of an opposing member opposed to the object member or a
temperature of a member whose temperature changes in correlation to a
10 change in the temperature of the opposing member; and

a calculating unit that corrects the detected temperature obtained
by the temperature detecting unit using the temperature as the
temperature for correction obtained by the unit for determining a
temperature for correction.

15 2. The temperature determining device according to claim 1,
wherein the temperature detecting unit includes a thermopile that
outputs a voltage corresponding to a temperature difference between a hot
junction and a cold junction, and

20 the unit for determining a temperature for correction determines a
temperature of the cold junction of the thermopile.

3 The temperature determining device according to claim 2,
wherein the calculating unit corrects the detected temperature
25 using a first temperature for correction determined by the unit for
determining a temperature for correction at a predetermined point in time
before a point in time when the temperature detecting unit detects a
temperature and a second temperature for correction determined by the
unit for determining a temperature for correction at the point in time when
30 the temperature detecting unit detects the temperature.

4. The temperature determining device according to claim 3,
wherein the first temperature for correction is determined when
heating of the object member is started.

35 5. A temperature correcting method, comprising:
a first step of detecting a temperature of a determination object

member based on an intensity of infrared rays from the object member;

a second step of determining a temperature of an opposing member opposed to the object member or a temperature of a member whose temperature changes in correlation to a change in the temperature of the opposing member; and

a third step of correcting the detected temperature obtained in the first step using the temperature as a temperature for correction obtained in the second step.

6. An image forming apparatus comprising a fixing unit that allows a toner image transferred on a transferring material to be fixed on the transferring material by heating the toner image under pressure,

wherein the fixing unit comprises:

a fixing member that is brought into contact with the transferring material so as to heat the transferring material;

a heating source that heats the fixing member directly or indirectly;

a temperature detecting unit that detects a surface temperature of the fixing member based on an intensity of infrared rays from the fixing member;

a unit for determining a temperature for correction that determines a temperature of a constituent member of the fixing unit opposed to the fixing member or a temperature of a member whose temperature changes in correlation to a change in the temperature of the constituent member; and

a calculating unit that corrects the detected temperature obtained by the temperature detecting unit using the temperature as the temperature for correction obtained by the unit for determining a temperature for correction.

7. The image forming apparatus according to claim 6, wherein the fixing member is an open-ended tube or an endless belt.

8. The image forming apparatus according to claim 6, wherein the fixing member has a thickness of 0.02 mm to 0.6 mm.

9. The image forming apparatus according to claim 6, wherein a face of the fixing member opposed to the temperature

detecting unit is a curved surface concave toward a side of the temperature detecting unit.

5 10. The image forming apparatus according to claim 6,
 wherein a face of the fixing member opposed to the temperature
detecting unit has a surface roughness Ra of not more than 0.2 μm .

10 11. The image forming apparatus according to claim 6,
 wherein the unit for determining a temperature for correction
determines a temperature of a member in the fixing unit opposed to the
fixing member.

15 12. The image forming apparatus according to claim 6,
 wherein the temperature detecting unit includes a thermopile that
outputs a voltage corresponding to a temperature difference between a hot
junction and a cold junction, and
 the unit for determining a temperature for correction determines a
temperature of the cold junction of the thermopile.

20 13. The image forming apparatus according to claim 12,
 wherein the calculating unit corrects the detected temperature
using a first temperature for correction determined by the unit for
determining a temperature for correction at a predetermined point in time
before a point in time when the temperature detecting unit detects a
25 temperature and a second temperature for correction determined by the
unit for determining a temperature for correction at the point in time when
the temperature detecting unit detects the temperature.

30 14. The image forming apparatus according to claim 13,
 wherein the first temperature for correction is determined when
heating is started by the heating source.